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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,571	09/03/2004	Kazuyuki Yamane	2004-1232A	3093

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EXAMINER	
THAKUR, VIREN A	

ART UNIT	PAPER NUMBER
1761	

DATE MAILED: 08/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/506,571	YAMANE ET AL.	
	Examiner	Art Unit	
	Viren Thakur	1761	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 July 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *25-48* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *25-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/3/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Claims 43-48 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on July 13, 2006

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 40 and 41 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 40 and 41 recite the limitation **"the hot water of the packaging material."** It is unclear as to whether hot water is a component of said packaging material. The examiner understands that hot water is in contact with said packaging material and not a component of the packaging material.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 25-26, 28, 29, 34, 35, 36 and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Su (US 3,804,938). **As recited in Claim 25**, Su discloses a heat treating method for a packaging product (Column 2, Line14-15) comprising a packaging material (Column 2, Line 14) formed by enclosing a content material within a packaging material. Su discloses that it is known that containers such as that described in the patent are used for food and beverage packaging (Column 1, Line 46-49). It is further disclosed that the packaging material comprises at least a layer of hydrophilic resin (Column 3, Line 56-59). The examiner has interpreted hydrophilic to mean able to absorb water, at any amount. It is known that by grafting such monomers as methyl acrylate increases the hydrophilicity of the graft polymer of acrylonitrile. Su further discloses heat treating the packaging product with hot water (Column 3, Line 61-63); wherein the hot water is caused to contain a water soluble compound (Column 3, Line 39). **As recited in Claim 26**, Su discloses the hot water has a temperature range from 54°C to 71°C which falls within the range 60-100°C (Column 3, Line 26-27). **As recited in Claim 28**

and 29, Su discloses a the hot water containing the water soluble compound at a concentration of 10wt% (Column 4, Table 1) and further discloses the water soluble compound incorporated in the range of 5 to 30 percent by volume (Column 4, Line56-57), which thus exceeds 0.1 wt% and exceeding 1 wt%. The water-soluble compound is disclosed to be a polyhydric alcohol (Column 3, Line 39) and is therefore a water-soluble organic compound, **as recited in Claim 34** and a water-soluble alcohol, **as recited in Claim 35**. Su further discloses the hydrophilic resin layer that is a gas barrier **as recited in Claim 36**; contacting the hot water (Column 3, Line 61-63), **as recited in Claim 40**. Su discloses one embodiment of the food container to be comprised of acrylonitrile/methacrylate – acrylonitrile/butadiene graft polymer, which is known to have oxygen impermeability/barrier properties.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 26, 27 and 36-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Su (US 3,804,938) in view of Knott, II et al (US 4,355,721). Su discloses a heat-treating process for containers that hold food and beverages

and a haze inhibiting adjuvant to be added, as discussed above. **As recited in Claim 26 and 27**, Su does not disclose the a heat treating method wherein the hot water has a temperature exceeding 100°C to effect a retort heat-treatment and said hydrophilic layer selected from a group consisting of ethylene-vinyl alcohol copolymer. Su further does not teach the boiling heat treatment temperature greater than 71°C to 100°C. Knott, II et al. disclose a package for food products comprised of multiple layers (Column 2, Line 8-27), **as recited in Claim 39**, of which at least one layer is a hydrophilic gas barrier (Column 2, Line 31-33), **as recited in Claim 36** of ethylene vinyl alcohol copolymer (Column 2, Line 31-45, **as recited in Claim 37-38** (Column 1, Line 45) wherein the packaged food product is exposed to pressure cooking or retort heat treatment in water at temperatures up to 260°F (126.6°C) which exceeds 100°C (Column 2, Line 53; Column 3, Line 55-59). Since the food package can withstand temperatures up to 260°F (126.6°C), Knott et al. thus teach a food package that is able to be heat treated, in water, within the 60°C-100°C range and above 100°C.

With regard to Claim 26 and 27, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify Su to provide heat-treating at temperatures between 60-100°C and above 100°C as taught by Knott, II et al. for the purpose of exposing the packaged food product to higher temperatures so as to be able to expand Su's commercial sterilization capabilities. Sterilization below the boiling point will only preserve foods for a

limited time. Retort heat treatment will further extend the preservation of the product, thus extending shelf life and consumer usability.

With regard to Claims 36-39, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify Su to incorporate a hydrophilic layer that is ethylene vinyl alcohol, as taught by Knott, II et al. for the purpose of utilizing a heat sealed sheet or film for food packaging that withstands the commercial sterilization conditions whereby the temperatures can exceed 250°F (Column 1, Line 20-24). Such a modification would allow for the food packaging to be exposed to higher temperature, which will allow for more complete heat treatment for either sterilization or cooking; a more durable packaging provides for better heat treatment while protecting the packaged food from the moisture. Therefore, the treated package will have a greater preservation period and shelf life.

With regard to Claim 40 and 41, Su teaches a heat-treating process, in hot water, for containers that hold food and beverages and a haze inhibiting adjuvant to be added, as discussed above. Su does not disclose the inner layer not directly contacting the hot water during heat treating. Knott, II et al. teach a multi-layer food package containing a food product, wherein the package has multiple layers with said hydrophilic layer not directly contacting the hot water (Figure 3; Column 2, Line 65-68). Knott, II et al. further teach that the hydrophilic resin layer does come into contact with hot water directly (Column 2, Line 58-63). The examiner has interpreted the surface layer as a layer that will come into

contact with the hot water. Said surface layer does not need to be the first outermost layer that would come into contact with the hot water, but must simply be a layer that does come into direct contact with the hot water. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Su to indirectly expose the hydrophilic resin layer to the hot water, as taught by Knott, II et al., for the purpose of protecting the gas impermeability of the hydrophilic gas barrier layer. The presence of water will affect the oxygen barrier quality of the EVOH layer and therefore an outer layer that is permeable to moisture and will allow for the release of water from the EVOH layer will protect the gas barrier properties (Column 2, Line 39-45; Line 58-68, Column 3, Line 1-2)

8. Claims 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Su (US 3,804,938) as applied to Claims 25-26, 28, 29, 34, 35, 36 and 40 as discussed above, and further in view of Levinson (US 4,390,554). Su teaches a heat-treating process, in hot water, for containers that hold food and beverages and a haze inhibiting adjuvant to be added, as discussed above. Su does not teach the water-soluble compound compising an inorganic electrolyte, **as recited in Claim 30**, that is an inorganic salt, **as recited in Claim 31**, that is selected from the group consisting of sodium chloride, potassium chloride and magnesium chloride, **as recited in Claim 32;** wherein the water-soluble compound is sodium chloride, **as recited in Claim 33**. Levinson teaches a food contained in a food package wherein the package acts as a buffer to the food from direct exposure to

microwave radiation. Levinsion further teaches that microwave radiation can cause non-uniform heating that can burn edges and spots of the food product within the said package. To assist in preventing non uniform heating, Levinsion teaches using a salt water solution that is added to one of the absorptive layers to uniformly heat the product (Column 5, Lines 24-43). It is obvious that sodium chloride is also known as salt.

With regard to Claims 30-33, It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Su to provide a salt water solution to contact the food packaging, as taught by Levinson for the purpose of preventing thermal run away effects that occur under microwave radiation. Levinson thus teaches that controlling the heat that a food and food package is exposed to, by using a salt water solution, will increase the efficiency of the heating while protecting the food within the food package.

9. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Su (US 3,804,938) in view of Knott, II et al (US 4,355,721) as applied to claims 25-41 as discussed above, and further in view of Shiiki et al. (US 6,245,437). The Su in view of Knott, II et al. combination disclose as discussed above. The Su in view of Knott, II et al. combination does not disclose the gas barrier hydrophilic resin comprising a glycolic acid copolymer. Shiiki et al. teach a gas barrier composite film comprised of a polymer of glycolic acid for use as food package materials

that undergo high-temperature, high-humidity conditions such as retorting (Column 2, Line 15-28; Column 11, Line 34-46).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the Su in view of Knott, II et al. combination to incorporate a gas barrier film of glycolic acid as taught by Shiiki et al. for the purpose of providing superior gas barrier properties. The use of a glycolic acid copolymer for the resin layer will further promote superior gas barrier properties (Column 2, Line 26-28) and further promote biodegradability thus lowering the burden on the environment. Modifying the Su / Knott, II et al combination to use a glycolic acid polymer in combination with multiple layers further increases the barrier properties required for the heat treatment of retort temperatures, and thus increases profitability. (Column 1, Line 50-59)

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 4,986,995 disclose a process for sterilizing rice in water at retort temperatures. US 5,063,072 disclose a process of boiling pasta whereby the pasta is contained within a bag that is boiled. Salt is added to the water which comes into contact with the cooking pasta bag. US 6,509,053 disclose a process of producing rice whereby after boiling it is packaged and then sterilized. US 5,517,981 disclose using sodium chloride catalyzed magnesium

water for safely heating pouched or otherwise contained items such as foods, medical compresses, blood, or blood plasma.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Viren Thakur whose telephone number is (571)-272-6694. The examiner can normally be reached on Monday through Friday from 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (571)272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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July 25, 2006

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